October 20, 1995

Mr. George Cosby
CalMat PROPERTIES
3200 San Fernando Road
Los Angeles, California 90065

GAS CONTROL ENGINEERING INC.

SUBJECT: Revised Proposal to Design and Supply Materials for the LFG Condensate Water Collection System for the Hewitt Landfill

Dear George:

I have revised this proposal per our discussion on Wednesday, October 18. The latest revision assumes that Calmat will do all of the construction. We also have also assumed that Calmat will supply all of the pipe and the electrical systems. GCE will provide the sumps, air receiver, design drawings and will help Calmat during system construction and start-up.

We have increased the engineering budget for the proposed work because we believe that drawings will require additional details for construction. Originally we anticipated doing 40% design drawings. This proposal is based on providing closer to 80% design drawings and specifications for critical parts that will be supplied by Calmat.

The system description remains the same as previously described. I have included the previous description in this letter to keep the proposal complete. The work that will be performed is a continuation of the condensate water disposal system that was previously installed in the flare station.

BACKGROUND

Calmat has previously contracted with Gas Control Engineering to design and construct a condensate water collection and disposal system for the Hewitt flare station. This system collects and sprays condensate water into the flare for evaporation and destruction of organics. The new work included in this proposal includes collecting condensate water from strategic locations on the landfill and pumping it to the 1000 Gal. tank at the flare station. All water will then be sprayed into the flare for disposal.

PROPOSED CONDENSATE DISPOSAL SYSTEM DESCRIPTION

The proposed condensate collection and disposal system would consist of several components (listed below) to collect condensate water and transport it to the flare station for disposal.

- Two sump sizes will be used. These are 10" and 6" diameter. The determination of the sump size was based on the expected water collection rate at various collection points on the landfill. A table on the attached cost sheet indicates where each size sump will be used.
- Sump depths are increased for added water holding volume. The nominal depth is 15 foot.
- Sumps pumps will be pneumatic operated to avoid electrical power in the field
- Sump pumps will be capable of lifting water 15 foot, the maximum depth of the sumps.
- No level controls or alarms will be installed in the sumps. All control will be located in the flare station.
- Air and liquid lines will be buried.

A brief description of the work and system components is given below.

Design Plans and Specifications: The proposal includes design plans for the construction of the water disposal system. Special provision specifications will be provided for components purchased or installed by Calmat.

Condensate Sumps: GCE will supply nine 6 inch drain sumps and five 10 inch sumps. Calmat will be required to install the new sumps and connect them to the header drains. A pneumatic bladder pump will be installed inside the sumps to push condensate water to the flare system. Calmat will also need to supply and install the protection vaults.

Conveyance Pipe: Condensate water will be transferred between the condensate sumps and the flare station in 1" SDR 7.2 HDPE pipe. It is assumed that this pipe will be buried adjacent to the main gas header. Compressed air will be piped to the condensate drain sumps in a buried 0.5" SDR 7.2 HDPE pipe. Above ground air lines will be constructed of galvanized steel. Calmat will supply and install all pipe and valves.

Sump Pump: A pneumatically operated bladder pump will be used to pump the water. All sump pumps will be connected to a common air line and will be operated simultaneously.

High Level: A port will be provided in the sump with a dip tube to determine if a high liquid level exists in the sump. An operator can connect a pressure gauge and air source to the tube to determine the liquid level. GCE will include this in the condensate sumps.

PROJECT TEAM AND PERSONNEL

Gas Control Engineering has an exceptionally talented staff of engineers and field technicians. Our team is amongst the best ever assembled to do landfill system design work. Mr. Prosser, President of GCE will be the project manager on this work. Mr. Alan Janechek, PE will design the field collection system.

SCOPE OF WORK

This section describes, in greater detail, the work that will be performed at the landfill. This is provided to help CalMat assess the full extent of the work that is being provided.

Task 1: Condensate Water Collection System Design

Task 1: Identify the locations of each sump -- The locations, elevations of the condensate water traps, and the elevations of the landfill surface will be evaluated. While GCE and Mr. Cosby have driven the site to identify the sump locations, under this task the locations will be marked and the routing of the pipe will be laid out.

Task 2: Design condensate sumps -- This design will include the sump pump system with controls, valves, and the vault. GCE will fabricate the sumps (not including the vault) and deliver them to Calmat for installation.

Task 3: Design the condensate water collection header system -- The condensate water will be collected to the flare station through HDPE pipe. The buried pipe will be installed adjacent and below the existing LFG header.

Task 4: Design the Compressed Air Distribution system -- The buried compressed air pipe will run parallel to the condensate water pipe.

Task 2: Construction of the Condensate Water Collection System

Task 1: Procure materials -- GCE will work with Calmat to procure materials for the project.

Task 2: Construct the System -- The field collection system modifications will be constructed by Calmat. This will require retrofitting the existing condensate water drains and installing the new sumps. Calmat will also install and connect the liquid gathering pipe, the air pipe and install a blow down valve at each end of the compressed air header system.

Task 3: Start the modified system -- Mr. Prosser will start the completed condensate incineration system and provide training to CalMat personnel.

Task 4: Prepare an O&M Manual on the implemented system -- GCE will prepare an operations and maintenance manual for condensate system operation. This will also include operation and maintenance literature on the components installed in the system.

PROJECT COSTS

The costs for Tasks 1 and 2 of this proposal will be performed on a fixed price basis as shown on the attached cost spread sheet. Design changes required because of changes in conditions or requested by CalMat may cause a difference in the total system cost.

Table of Project Costs

Task		Engineering	Construction
Task 1:	Condensate Water Collection System Design and Material Supply	10,588	53,414.00
Task 2:	Construction of the Condensate Water Collection System (Based on 15 sump conversions and about 3800 feet of collection header)	6,312	By Calmat
Totals		$16,900	$53,414.
TOTAL			$70,314.

LIMITATIONS

Because the SCAQMD permit for the proposed system has already been completed, no permit work is included in this work scope. It is also assumed that a SCAQMD Rule 1150 excavation permit will not be required to do this work since refuse will not be excavated. No permit applications are anticipated for the above proposed work. Because this system is outside the scope of the City of Los Angeles building department code, it is not anticipated that City building permits will be required for this work.

Information gathered during the project by Gas Control Engineering is considered confidential and will be released only upon written authorization of CalMat or as required by law. California law requires a person to inform the State if a situation is encountered that can be considered an immediate endangerment to the public's health or welfare and/or the environment.

The design work prepared under this scope of work will be consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in Southern California. No warranty is expressed or implied.

The time included to perform construction observation is limited. The time required will be dependent on the duration of the construction and the time required by GCE. The budget included is an allowance for this work. Actual hours may change based on the needs in the field.

This proposal is the property of Gas Control Engineering, Inc. and may be used only by the Client and only for the purposes stated, within a reasonable time from its issuance.

Thank you for this opportunity to propose these engineering and related services to CalMat.

Sincerely,
Gas Control Engineering

Richard W. Prosser, P.E.
President

RWP/cw

HEWITT LANDFILL
LFG Collection System Construction
COST ESTIMATE OPTIONAL WORK

Item No.	Item of Work	Unit	Quantity	Material UnitCost	Total Material	Installation Unit Costs	Total Calmat	Total Cost
1	6" CONDENSATE SUMP W/ PUMP (Vault By Calmat)	EACH	9	$2,751.89	$24,767.04	$1,962.50	$17,662.50	$42,430
2	10" CONDENSATE SUMP W/ PUMP (Vault by Calmat)	EACH	5	$3,689.39	$18,446.97	$1,962.50	$9,812.50	$28,259
3	Bollards	EACH	2	$0.00	$0.00	$115.00	$230.00	$230
4	End Point AIR LINE DRAIN, PRESSURE GAUGE AND VAULT	EACH	2	$0.00	$0.00	$800.00	$1,600.00	$1,600
5	CONDENSATE LINE 1" HDPE, SDR 9	L.F.	4,799	$0.00	$0.00	$2.50	$11,997.50	$11,998
6	AIR LINE 1/2" GALVANZED STEEL ABOVE GRADE	L.F.	1,000	$0.00	$0.00	$3.75	$3,750.00	$3,750
7	AIR LINE, 1/2" HDPE, BELOW GRADE	L.F.	3,799	$0.00	$0.00	$2.00	$7,598.00	$7,598
8	TRENCHING AND BACKFILL	L.F.	4,799	$0.00	$0.00	$3.00	$14,397.00	$14,397
	Control Valve and Piping	EACH	1	$300.00	$300.00	$125.00	$125.00	$425
	Solenoid Valve and Piping	EACH	1	$250.00	$250.00	$125.00	$125.00	$375
	Controller and Electrical Installation	EACH	1	$0.00	$0.00	$2,000.00	$2,000.00	$2,000
	Air receiver (120 gal), Valve, and Check Valve	EACH	1	$1,250.00	$1,250.00	$200.00	$200.00	$1,450
9	Spare Sump Pumps	L.S.	3	$2,800.00	$8,400.00	$0.00	$0.00	$8,400
10	Asphalt cut and repair	SQ	1,000	$0.00	$0.00	$4.00	$4,000.00	$4,000
11	Engineering and Construction Observation	LS	1	$16,900.00	$16,900.00	$0.00	$0.00	$16,900
					$70,314.01		**$73,497.50**	***$143,812***

Condensate Sump Assembly consists of the folowing:		10"	6" sump
	Vault	400.00	400.00
	Airline Valve	31.25	31.25
	Liquid Valve	31.25	31.25
	Pump with air line Filter	1158.14	1158.14
	Sump	1875.00	1125.00
	Custom Blind Flange	156.25	93.75
	Flex Hose (liquid)	31.25	31.25
	Check Valve (liquid)	62.50	62.50
	2" Saddle Connection	62.50	62.50
	4" saddle connections (two)	-	-
	Backing flange and bolts, nuts, and gasket	281.25	156.25
	Installation	1562.50	1562.50
	Air regulator	0.00	0.00
	pneumatic level switch	0.00	0.00
	valves and pressure gauge	0.00	0.00
	TOTAL	5651.89	4714.39

RTB, inc.
GENERAL ENGINEERING CONTRACTORS

7-12-95

Change Order #101

ORDER FOR CHANGE IN WORK

AT THE HEWITT LANDFILL

Change In Work: Supply concrete pump for condensate pad concrete pour

Add/Deduct from contract price:	Add	$ 143.50
Original Contract Price		$2400.00
Total contract Price		$2543.50

Approved : Gas Control Engineering

by Kirk Hein, P.E.
Project Engineer

Accepted : RTB, inc

by Mark E. Downey
Project Manager

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